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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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## UNQUALIFIED PRACTICE.

Most practitioners will agree that unqualified practice—by which we mean practice carried on, not by the old "registered existing practitioner," but by men without legal licence of any description—has been on the increase for years past. One of the countless by-effects of the war will be to render this unqualified opposition more serious to us. The number of unlicensed practitioners may not have increased greatly by the time the war is over; but a good many of those now practising are certain to have improved their positions.

The reason is obvious. We all know the effect the war has had upon veterinary practices, especially in the country. Some are left wholly unattended; others are being worked as well as possible by practitioners who, though neighbours, are not always very near at hand. The result is that in many districts it is difficult to obtain qualified veterinary services at all, and impossible to obtain them for anything like the price at which they were once available. Under the circumstances it is not surprising if owners, instead of paying for long journeys by qualified men, elect to go to nearer and cheaper unqualified ones. But the net result will be that, before the war ends, the unlicensed practitioner will have gained a footing in many places in which he never had one before, but from which he may be difficult to dislodge.

It is better to recognise this at once—to admit that the war has given unqualified men an opportunity which many of them will be able to use to our disadvantage. Their opposition was serious before the war; it will be still more so afterwards. We can consider later how to deal with it; but we must not forget that we ourselves are responsible for much of it. Unqualified practice would never have become so serious an evil as it is, had it not been for our old practice of employing unqualified assistants.

## DIGIPUREN.

Many will read the long clinical report on this new Italian preparation which we print to-day with a certain amount of scepticism. Digitalis itself has long been recognised as one of the most potent and valuable drugs in the pharmacopœia. But attempts to obtain extracts of its active principles have not hitherto been quite satisfactory; and we have not one such extract which is universally accepted as free from drawbacks. This new one promises well; but it is too early to say more.

## A CASE OF LEAD POISONING IN THE PIG.

By HENRY TAYLOR, M.R.C.V.S., Haywards Heath.

Cases of lead poisoning in the pig are probably not very common. The cause of the case in question arose in the following manner. A carpenter employed on an estate in repairing and painting a gate, left a tin containing about 2 lbs. of white lead paint, on the ground in a cart shed. A sow about three months pregnant, running at liberty round the farm, came across the paint and proceeded to eat it. She was a large black sow, and in addition to partaking of it, evidently thought that in these days of culture she might emulate some bipeds of the same sex, and apply a quantity of it for the beautifying of her personal appearance. This she did in fine style. Next morning the owner noticed nothing amiss with her beyond the bedaubed appearance and did not suspect that any harm would result. In two or three days time the animal went off her feed and the fæces passed were a greyish-white colour, so he gave her a dose of Epsom salts. During the next few days she became lethargic, lay down a great deal, and would eat hardly anything except a little green grass in the field. This state of affairs continued until I was called in on the 11th day after the ingestion of the paint. In the meantime it had been ascertained that she had made away with about 2 lb. of it. The medicines prescribed were sulphates and iodide of potassium, with a dose of linseed oil every other day. In four days it was reported that there was a distinct improvement, and recovery seemed very probable. Previously there had been some interference with muscular action when walking, but now that was better and the appetite had partially returned. Next day, the sixteenth since the ingestion of the paint, she suddenly began to run about in an excited manner and was with difficulty got into the sty. Being sent for again, the following were the symptoms exhibited on my visit; the sow was racing about the pen, quite mad and quite blind, banging her snout violently against first one wall then another, causing the blood to spurt out, and disfiguring everything. She seemed in a good deal of pain and quite unable to control herself. A hypodermic injection of morphia had little or no sedative effect, and she died in about an hour.

There are one or two points worth noting about the case; first, the length of time which elapsed between the ingestion of the paint and death; second, no abortion took place; third, the apparent recovery and the sudden onset of brain symptoms; fourth, the fæces had become at the latter end almost normal in colour; and fifth, the violent brain symptoms compared to the slight muscular ones. No blue line round the gums was detected.

## ABSTRACTS FROM FOREIGN JOURNALS.

### The effects of Digipuren, a new Digitalis preparation, in veterinary practice.

Digipuren is a fluid preparation of the active glucosides of digitalis, which has recently been introduced into therapeutics by the firm of Belloni, Muraro, e C., of Milan. It has already gained a reputation in human medicine, but does not appear to have yet been used in veterinary work. G. Braglia, for some time past, has been trying it in veterinary practice in cases in which digitalis was indicated, and has now published his results. The following is a summary of the cases he records:—

*Case I.* was a pointer bitch, two years old, affected with ascites. The animal was in a pitiable condition, was very thin, and moved with difficulty. The abdomen was enormously distended, the respiration was dyspneic, and the limbs were œdematous. The abdomen was punctured, and six litres of liquid drawn away. Some liquid was left in the abdomen, in order that the intra-abdominal pressure should not be diminished too greatly.

The pulse was very weak, and counted from 150 to 160 per minute. To regulate it, and also to encourage the absorption of the remaining liquid, daily injections of digipuren were given. Two, and sometimes three, 1 c.c. phials were given daily. After the remedy had been administered an hour the pulse dropped, showing a diminution of from 8 to 10 beats per minute. The pulse also became stronger; and a more abundant urination was noticed. The injections were continued for quite ten days, and no sign of accumulation was seen. No swelling appeared at the sites of injection.

This treatment gradually restored the animal to good condition, and the owner has since reported her to be perfectly cured. [The author offers no opinion as to what may have been the cause of the ascites.—*Transl.*]

*Case II*, was a male fox terrier, eight months old, affected with the thoracic form of distemper. The animal was very dull and prostrated. Cough was frequent, a nasal discharge streaked with blood was present, the eyes were bleared and sunken, and the mucous membranes were cyanotic. The temperaure was 106.1° F., dyspnea was present, and the respirations counted 52 per minute. The pulse was rapid and thread-like, and the heart very weak. Percussion revealed dulness on both sides of the thorax; and ausculation yielded crepitant wheezing.

Treatment consisted of medicated inhalations, painting both sides of the chest with tincture of iodine, and the intravenous injection of digipuren. Two 1 c.c. phials of digipuren were injected into the saphena vein daily, one phial in the morning and one in the evening. After the first injection the condition of the heart improved considerably; its tones were stronger, the pulse rate fell, and the respirations were more regular. It was very clearly observed in this case that, after half an hour from each injection, the temperature fell from 0.6° C. to 0.8° C. (= from just over 1° F. to almost 1.5° F.), and then rose gradually some hours later. The author regards this as a proof that digipuren is as rapid in its elimination as in its effects, and that, therefore, there is no danger of cumulative action. The general condition of the animal improved very quickly. The dulness and abnormal sounds of the lung disappeared; the appetite returned; and, after six days, the dog left the infirmary convalescent.

*Case III.* was a terrier bitch, a year old, suffering from the pleuro-pneumonia of distemper. The animal had been affected four days; and a good part of the lung was hepatised. The respiration was superficial, frequent, and executed with labial movements. There was a painful cough. The pulse was small, transient, unequal, and intermittent; and it counted from 135 to 140 per minute. The temperature oscillated from 105.8° F. to 106.7° F. The aspect of the case was very serious. Intravenous injections of digipuren were at once given—three 1 c.c. phials daily at first, and afterwards two phials. In this case, also, good results were obtained with digipuren, which proved itself a true cardiac tonic, and at the same time an efficient antipyretic. No thrombosis or other local disturbance followed the intravenous injections.

*Case IV.* was a male hunting dog, six years old, affected with cardiac disturbances. The animal was incapable of slightly prolonged exertion, and was several times attacked by syncope, always while attempting to go up or down stairs. The temperature was normal. The respiration was short and dyspneic. Auscultation showed the vesicular murmur to be slight. The area of cardiac dulness was increased; and the beats of the heart were weak and indistinct. The pulse was small, somewhat compressible, and arythmic. The limbs were œdematous; and the œdema extended under the abdomen. The urine was scanty and destitute of albumen.

Three injections, each of 1 c.c. of digipuren, were given daily for five days in succession. At the sixth day the cardiac condition had improved considerably. The pulse was fuller and more rythmical; and the urine was more abundant. The œdemas had disappeared, and with them all the other symptoms of circulatory disturbance.

*Case V.* was an Irish horse, six years old, affected with bilateral pleurisy complicated with pericarditis. The horse had been affected for several days, and had been treated without success. General examination revealed muscular tremors, an uncertain gait, slight sub-icteric injection of the visible mucous membranes, and extensive hot, painful swellings of the hind limbs. The temperature was 104.3° F., the pulse was thread-like, fast, and irregular; and the respirations were superficial and frequent, counting from 36 to 40 per minute. The horse attempted to withdraw himself from percussion of the thorax, which operation revealed a normal resonance in the upper part, but dulness lower down, in nearly all the inferior third.

Auscultation of the thorax, especially of its upper portion, gave an impression of friction sounds; and it proved absolutely impossible to perceive the beats of the heart.

An intra-muscular injection of 10 c.c. of digipuren was made on the right side of the neck. A few hours afterwards the temperature was somewhat lower; and the first sound of the heart was perceptible. The injections were continued for some days; and the result may be summarised by saying that the treatment was completely successfull. All the symptoms of pleurisy and pericarditis disappeared; and the animal finally left the hospital perfectly cured.

*Case VI.* was a horse of native breed, six years old. The history was that the animal was affected with chronic hydrocephalus, and had been treated for this for some time with various remedies, including injections of pilocarpine, but with little success. The horse was in a good state of nutrition; but had a depressed, stupid, and somnolent aspect. Amblyopia was present; sensitiveness was much diminished; the gait was uncertain, and, in walking, the horse raised his hind feet considerably as if to surmount some obstacle. The pupil was considerably dilated. The temperature and respirations were regular. The pulse was weak and slow; the heart was also weak, and only its first sound could be heard. The diagnosis of chronic hydrocephalus was confirmed.

A ball of 25 grammes of aloes was given; and, in order to combat the weakness of the circulation and the atony of the heart, digipuren was used. Three 5 c.c. phials were injected in the day; and these injections were repeated for six successive days. This produced a distinct physiological effect; the pulse became stronger, the beats of the heart were more energetic, and both its sounds could be heard. The general condition of the horse was then much improved; but some symptoms of hydrocephalus still remained. A smart blister to the sides of the neck completed the treatment; and the horse was discharged cured about a month after being taken in hand.

*Case VII.* was a six-year-old horse of native breed, affected with double pneumonia. He had been affected for two days; and when first seen his condition was alarming. The temperature was 106.1° F; the pulse, which was small and thread-like, was 80 per minute; the respirations were 38 per minute, and were irregular. The heart was very weak. On both sides of the chest there was a dull resonance over almost all its inferior half, with no vesicular murmur, but with crepitant wheezing and friction sounds.

A sinapism was applied to the sides; and 15 c.c. of digipuren was immediately given subcutaneously. The next morning the pulse was 74 per minute, the respirations were 34, and the temperature 104.3° F. Another 15 c.c. of digipuren was given; and at 2 p.m. the pulse was 63 per minute, the respirations 26, and the temperature 103.3° F. The next day, in the morning, the pulse was 72, the respirations 28, and the temperature 102.9° F. Another 15 c.c. of digipuren was given; and in the evening the pulse had fallen to 64, the respirations to 24, and the temperature to 101.6° F. On the right side the dulness had almost disappeared, wheezing sounds were present, and the heart was still a little weak. The injections of digipuren were repeated; and four days later, the horse had completely recovered from the pneumonia.

The author regards these cases as clearly proving that digipuren has an action analogous to that of digitalis leaves. But it possesses the following advantages over digitalis leaves and their infusion. It is perfectly dosable, being constant in its constitution. Its action is more prompt and more certain than that of digitalis. It may be administered by the hypodermic, intra-muscular and intravenous channels without any inconveniences; and on that account it is to be preferred to the various digitalins and even to digalin, which, according to Doru, causes irritation at the point of injection. The author, therefore, regards digipuren as one of the best preparations of the active principles of digitalis; and commends its use in animal diseases when digitalis is indicated. The doses by hypodermic injection are from 15 c.c. to 20 c.c. in the horse, and from 3 c.c. to 5 c.c. in the dog.—(*La Clinica Veterinaira*).

W. R. C.

NOTE.—In the short extract on the use of calomel in swine fever, p. 95 of last week's issue, the *dosage given is in grammes*, not in grains.

## THE VETERINARY MEDICAL ASSOCIATION OF IRELAND.

(NATIONAL V.M.A.—IRISH BRANCH).

(*Continued from p. 93.*)

Mr. MAGEE: I must say I would like to have heard Prof. Craig read the paper, and I am sure so would other members of the Association, I would have read it, but I have been exceptionally busy. Prof. Craig deserves great credit for bringing this paper before us, although it was intended for a far more important meeting than ours. I congratulate Prof. Craig, and although I do not agree with him on certain matters, I cannot help congratulating Mr. Norris on his criticism of the paper. I do not say that everything he stated was right, but I have seldom heard better or more common-sense criticism. Mr. Norris referred to my paper on "Thrombosis of the Anterior Mesenteric Artery." He agrees with me, and I say that most of my views on the subject were right. At the same time a very eminent member of the Association, Mr. Howard, questioned many of my statements.

The CHAIRMAN: I am afraid you are going into another matter.

Mr. MAGEE: He said I took a great deal for granted.

Mr. HOWARD: Assumed, I said.

Mr. MAGEE: Probably I was assuming in some cases; but I reported my experience with regard to nematode worms (*Strongylus vulgaris*) and thrombosis. Mr. Patrick asked to-night if anyone had any experience of the treatment in the use for atoxyl for strongylosis. Personally I never saw or read of its being used for the eradication of thrombosis, and I think it is a foolish suggestion. Anyone who has seen a case of thrombosis will say that it is foolishness to think that such a drug would be of any use. Here you have a thrombus several inches long composed of fibrin and in the centre you have these little nematodes lying away where no drug, in my opinion, could possibly get near them. You

would practically want the whole thrombus absorbed before the drug could have any effect on the nematodes. I think atoxyl in that case would be absolutely useless. With regard to the trouble caused by nematodes, my actual experience is that a good many owners are very fond of "worming" their foals at certain periods. They have a great belief in certain worm powders which come from England. I have sometimes asked them if they have seen the worms come away as a result of the powders, and they always had to confess that they did not see any. They administer them every year, whether the foals want treatment or not. I cannot help thinking that it is wonderful how the poorer owners manage to get on all right without even knowing of the existence of these powders.

Prof. CRAIG: Do the poorer owners breed so many animals?

Mr. MAGEE: No, they breed one or two foals and they get on alright; they are in much poorer circumstances. I have not seen more disease amongst the poorer owners' foals than amongst those of the wealthy breeders; in fact, my experience is the contrary. I really believe the foals do not require the worm powders at the stated periods. I know, too, that some people are always worming their puppies at certain periods, and if anything goes wrong they attribute it to worms. I have a good deal of experience in one matter, and I must say I think Mr. Norris was wrong in his reference to the treatment of hoose in calves. It is a pity we attach so much importance to the names of many foreigners, and I agree with him in reference to that. The reason they seem to have such influence is that they publish the results of their experiences more than we do.

Mr. NORRIS: The quotation has no point as a rule, but bringing in the name gives the paper a literary touch.

Mr. MAGEE: When you have hoose in a number of calves Scheibel's method is hardly worth the trouble. As a result of reading Scheibel I have adopted a method a method of treatment which I have found very successful. I inject into the trachea Scheibel's mixture, viz., creosote, alcohol, distilled water, and chloroform. I use a stout syringe and a hypodermic needle one-sixteenth of an inch thick, with holes bored in different parts for about an inch from the point, of which the orifice is blocked. I shove it until I reach the far side of the windpipe: and I have injected half an ounce of the mixture—and as much as two ounces, in the case of a cow, with most wonderful results.

Prof. CRAIG: For what?

Mr. WILKINSON: Hoose.

Mr. MAGEE: I was asked to see a cow which the owner said was blowing very hard. I found her respiration 120 to 150 per minute. Her temperature was about 102. There was not very much to be got from her history. She was found at grass in that condition. Strange to say she was feeding and looking healthy otherwise. I suspected lung trouble, and examined the lungs, but could find nothing wrong. I was puzzled as to what the trouble was, but I had to make some diagnosis. I attended the case next day, and she was in the same condition, I thought that, in justice to my client, I would have to do something. I said I thought it must be a complication—that either a foreign body had entered the stomach or that it was possibly a case of hoose, which was very exceptional in a cow six or seven years old. He asked me what I would suggest, and I said I would go home and get my hoose apparatus. I did, and cut down on the cow's windpipe, and injected two ounces of Scheibel's mixture. She took a most violent fit of coughing, and I saw her swallow something which I was confident was a bolus of worms. In about ten minutes she was breathing almost normally. That is the only case I have had where there could not be much doubt as to the nature of the trouble, and as it yielded to treatment in such a few minutes I thought I should mention it.

Mr. HOWARD: Mr. Chairman,—With your permission I must first refer to Mr. Magee's protest. He has taken this opportunity to refer to the fact that on a previous occasion, when discussing his paper, I pointed out that he was assuming too much. Well, as he has again referred to the matter, I regret to have to say that as he assumed too much then, he is assuming a terrible whole lot now. The very idea of a man going out to treat a cow, and arriving at the conclusion she is suffering from hoose, treating her, and seeing her cough up something and swallow it, assumes that it is a large bolus of worms commonly associated with hoose. Mr. Magee has great faith in assuming things, but I assure him that it would take an investigation into what was the composition of that bolus before even such an authority as Mr. Magee would make me believe that that cow was affected with hoose at all. However, she got well, and that satisfied.

The CHAIRMAN: I think we ought to discuss the paper, and not Mr. Magee.

Mr. MAGEE: Will Mr. Howard suggest what it was if it was not hoose?

Mr. HOWARD: I think Prof. Craig deserves the greatest possible credit for bringing forward a subject which, like Mr. Magee's, we may describe as of national importance. The diseases due to worms cause great havoc, and if we could do anything to remedy that state of affairs we will be doing good work. Prof. Craig deserves the thanks of the profession and of the community, even though he quotes some of these great men I don't know anything about. We men in the country cannot agree with all those authorities say, when we see some of the cases we meet with in the ordinary course of our profession, and I think that some of the suggestion they make are absolute nonsense. In discussing the paper Mr. Patrick practically read another paper. He spoke, I think, of intravenous injection of atoxyl for locating worms in blood-vessels. The idea that intravenous injection would have any effect on the worms away down—I don't know how many miles in the circulation—measuring the length we believe the drug would have to travel, I endorse as absolutely nonsensical. I think, from what we have been taught, that anything you inject into the blood system would undergo a complete change before it came into contact with worms in the mesenteric artery—or any other part of the system. Prof. Craig suggested in the treatment of worms in foals that it would be convenient to give drugs in water, and leave it for the foals in the morning or in the evening. I think if Prof. Craig had much experience he would change his idea of the practicability of giving drugs in water, for foals, when left on the dams, will never drink water; and when they come to a year old they fight very shy of it. Besides, the quantity of the drug cannot be so well regulated in the water. You would find it easier to give the proper proportion in the food, for they will go without water when they won't go without their food. Mr. Magee and Prof. Craig referred to the question of the difference between the foals reared on the big stud farm and those of what was called the poor man producer. That question was gone into fully at the last meeting, and it was explained that the stud farm as we know it is simply poisoned, whereas the poor man produces two or three foals on a couple of hundred acres which do not become poisoned. It is not so much the immediate effect on the worms that we have to consider in the administration of drugs to foals, horses, and other animals—if they have have any effect at all. Personally, I think they have not very much, if even any effect, on the worms. Drugs act as tonics to the system generally, and with the use of drugs there is better food and care of the animal. Somehow, poverty always seems to be one of the conditions that goes a long way

towards the production of worms. Even where there is a certain amount of poverty, when the animal is fed and given no drugs, you find that the worms begin to disappear in the majority of cases. Mr. Patrick very properly said, the breaking up of land and more tillage, would have a material effect. It would bring about more feeding material, and the animals would be better fed. About arsenic: no doubt it acts as a tonic, and when good feeding is given the animals are kept in better health.

Some of the other things recommended included tabacco—used nearly always by the older people. My idea about tobacco is that it has no immediate effect on the worms. It simply has the same effect as scouring out the beast, the same as aloes or other drugs.

I am not surprised to hear the fumigation treatment condemned, because in the form recommended I think it is absolutely fatal as a treatment for hoose in calves. I assure Prof. Craig that if he goes on to treat calves by keeping them subjected to burning sulphur in a closed building for half an hour, he will not be called in to treat the calves again. The will not die of hoose, but that treatment will kill every one of them. Even a large herd of calves could be easier dealt with by fumigation than by intratracheal injection by Scheibel's treatment. In the case of two or three it might be very nice to stick a needle into each one of them, but if you had fifty or sixty it would be very tiring work. The owner of calves would hardly be able to allow a proper fee for doing this work, and it would be nonsense to expect it. I probably have as much experience as anyone here in treating this disease, and I am happy to say that the best possible results have been entirely from fumigation. I recommend it everywhere. But the calves are only exposed for five minutes, and there is a terrible difference between five minutes and half an hour. After it, unless the lungs are already packed with disease, the trachea and upper air vessels in 99 per cent. of cases will get well. But the fumigation should not last longer than five minutes. It is useful also to administer turpentine.

Prof. CRAIG: You do not rely entirely on the fumes?

Mr. HOWARD: Sometimes, with the best possible result.

Mr. NORRIS: Have you ever left them without fumigation and had them cured?

Mr. HOWARD: I was just going to say that I was glad to see that Prof. Craig states that in one case he fed a calf and gave it no medicine, but while he gave others intratracheal injections, the untreated calf did as well as the others. I firmly believe in feeding, but I also firmly believe in fumigation: but you must remember we cannot always have the little theories we have in our minds adopted, and farmers cannot always afford to feed. If you are going to be of any use you must do something, and I think fumigation will be found most effective. A considerable number of worms are coughed up, and worms are killed as well. It is very much better in the case of fifty calves, than injecting each one in the trachea. I hope I will not be regarded as uncomplimentary in the manner in which I have criticised Prof. Craig's paper. I have simply endeavoured to convey my own impressions from a practical standpoint, and that is what we want in the country. (Hear, hear).

Prof. O'CONNOR: I read Prof. Craig's paper with great pleasure, and have nothing but admiration for it. I know very well the careful attention that Prof. Craig devotes to these worms from the scientific aspect. It is very important that the subject should be approached from this point of view, so that something may learned of the life histories of these parasites, for very little is known of them at present. If we could learn more in this respect we might be able to take effective measures to prevent their reproduction.

As to the need of drugs, I have an idea that when an animal is showing disease, the result of worms, treatment has little or no effect. What I would like to insist upon is prevention. We know that vermifuges sometimes do expel worms, for example, in the dog, but in herbivora grossly affected with nematodes they are useless.

I should think that fumigation ought to be the best treatment for hoose, since the drug in this case reaches the seat of the worms. I have had good results from intratracheal injections.

I must express my thanks to Prof. Craig for the great trouble he went to in preparing such an excellent paper. It was intended, of course, for the International Veterinary Congress which was not held, but their loss is our gain. (Applause).

### REPLY.

Prof. CRAIG: Mr. President and Gentlemen,—I thank you very much for the way in which you discussed the paper, and I am glad that I have been favoured with some information as to your experience and opinions with regard to the treatment of disease due to nematode worms. In cases like those it is always extremely difficult—as with all medicines—to make out whether the results have been brought about by the action of the agents given, and naturally there is bound to be a considerable difference of opinion.

As to the title of the paper, I was not given the prerogative of selecting it. I was given the title, and was told to write upon it, so that is the reason for the title of the paper. It might not be the best title for it, still I wrote upon it, and there was no means at the time of changing it, and it has been allowed to remain.

Regarding the President's remarks, I do not know of any means by which prescriptions can be kept from the hands of the chemist. The only possible thing to do is to impress upon the client the great necessity for arranging doses of drugs according to the patient.

Mr. Patrick, in opening the discussion, amplified a great deal what was stated in the paper, which was bound to be condensed. As there were so many worms to be dealt with, there were very few things in it which could not have been amplified. I cannot agree with him that there is any specific agent against any particular nematodes. In the case of herbivora, the agents which are used are very uncertain in their effects. I have seen a few cases in which ascarides caused rupture and perforation of the bowel wall in the horse. In considering the question of worms in herbivora, whatever may be said against the periodical use of vermicides, it has considerable advantages, and I think one would be remiss if one did not suggest to the owners in cases where the disease did appear that these medicines should be given occasionally—not that when the disease appears that they are always likely to be of service. They are likely to be of service when it is not causing very much inconvenience. There are certain conditions in which astringents may be used. One can often only deal with the effect of the worms; the worms have either been got rid of but produced serious damage to the bowel wall, or have entered the bowel wall and cannot be removed, *e.g.*, in sclerostomiasis in horses. In such cases where diarrhœa is set up, astringents may be usefully employed.

I know that tobacco has been recommended in the treatment of gastritis due to nematode worms in ruminants. It is particularly common in America in the form of tocacco leaves—with good results, but I notice where it has been used in this county—speaking of Great Britain and Ireland—the results have been very uncertain. I think medicines are only likely to be of service in this form of disease in cattle when it is treated early. A good many cases met with in actual practice are in advanced stages. The worms have produced

serious effects; they have considerably injured the mucous membranes and have inoculated bacteria.

Reference has been made to the dangers attending the use of carbon bisulphide. No doubt the result of drugs is good or bad according to whether they are given in right or excessive doses. I agree with Mr. Patrick that vermicides are more certain in smaller animals, as the bowel is more easily cleared out in the first instance to allow the vermicide to act, but there are certain conditions when it is exceedingly difficult to deal with the disease. In an outbreak of ankylostomiasis among foxhounds, which I saw some time ago, anthelmintics proved of little service in advanced cases.

Mr. Norris referred to the production of tumours in the stomach of rats in which nematode worms were present. If the tumours were due to the worms the latter produced their effect by the action of toxins.

With reference to the question of large numbers of worms being present in certain cases which did not appear to produce disease, I think I ought to refer to the explanation I gave in the paper. "It may be that in debility the media furnished by the host are more favourable to the development of this parasite or that in a stronger body antitoxins are formed which inhibit the development of large numbers of worms or prevent their ill effects." That is one explanation. There is another. I indicated that these worms may sometimes inoculate pathogenic bacteria into the tissues of the host. In some tumours organisms are present which could only have been introduced by inoculation by these worms. In the examination of intact tumours of spiroptera megastoma of the horse's stomach numerous bacteria were found. In strongyles of the horse sometimes the animal, which is apparently healthy, becomes affected with an acute enteritis and dies. There are plenty of worms present in the bowel, but not sufficient to account for the symptoms. These symptoms can only be explained by the introduction of pathogenic bacteria into the tissues through the agency of the worms. That is the explanation one could give for very acute symptoms.

The dressing of the lard with salt has been objected to. I have seen lards treated in this way with very good results.

Mr. Norris: As a rule double the quantity you state is used—of lime or salt.

Prof. Craig: A solution of salt is very deadly to these worms, especially in the larval or embryo stage. It destroys them rapidly. The only objection to salt is that when the rain comes it washes the salt away very rapidly.

As to M'Fadyean's experiments, I do not know of any experiments of a like or direct nature dealing with the action of various agents on nemotode worms. The way in which drugs act inside the body cannot be clearly shown, and explanations of their action are only matters of opinion. In herbivora these agents are diluted to such an extent in the stomach that one cannot know if they come in contact with the worms in sufficient strength as anthelmintic or not. I agree that it is useful to examine the fæces for the purpose of diagnosis of worms in the alimentary canal, but one must remember that in herbivora one will find eggs and worms commonly present where there has never been any disease caused by worms. In one case in the horse I have found eggs of strongyles in the fæces and on post-mortem could find no worms in the alimentary canal.

Mr. Norris; Where did the worms come from?

Prof. Craig: Through the food—contamination of the food. I agree that in a large number of cases an examination of the fæces would be helpful in ascertaining in connection with certain symptoms whether worms would be likely to be present. It is quite easy to distinguish the eggs of the *strongylus micrurus* and *strongylus gracilis*. The eggs of the former contain embryos, while the latter are in the morula stage.

Mr. Norris told us that in his experience fits and similar symptoms in pigs were not due, in quite a proportion of cases, to the presence of ascarides, and that in these cases ascarides were often absent. I agree that other causes may be active in the production of these symptoms. At the same time toxic symptoms such as convulsions are not dependent on the number of parasites. What has been the pronouncement in a human subject where cause and effect could easily be associated. Galli Vallerie states that he infected himself with the human ascaris and he experienced more discomfort when he had only one worm present than when he was infected with quite a number of worms. That goes to show that the symptoms are not always an indication of, and in proportion to, the number of worms. I am not quite clear in my mind as to the connexion between the fits and tricocephalus in the case Mr. Norris mentioned. They are not usually associated in the way of cause and effect.

Whether on account of the war or other circumstances objection has been made to the names of people being quoted in connection with papers. For my part I do not agree with that idea. I think that all the information and all the experience of interest or importance that can be had on a subject should be quoted and discussed. It is hardly fair with reference to new forms of treatment to say they are no good before trying them at all. That applies to a particular treatment I referred to in my paper—Scheibel's treatment for strongyles in the bronchial tubes. The idea is a good one: the method is perhaps too elaborate, but can easily be modified according to the circumstances of the case.

I totally disagree with Mr. Magee as to giving periodic doses of worm medicine. I think that if worm medicine is given to horses in the case of sclerostomes, it would be more likely to be of service to animals exposed to infection before the symptoms appear; but when animals are only a year old that it should be given wholesale is a different matter altogether. I think the owner will be well advised to obtain all his medicines from the veterinarian who may be in the habit of attending his animals.

Mr. Howard had said that a great deal of nonsense had been talked about drugs and disease, and that atoxyl was no use as a vermicide.

Mr. Howard: I said nothing of the kind.

Prof. Craig: The suggestion was that it was of no service in dealing with the strongylidæ of the horse.

Mr. Howard: I referred to atoxyl given intravenously.

Prof. Craig: The treatment has been recommended and the cases in which it has been recorded as being used great improvement resulted. Surely none of them were so well satisfied with the results of treatment in the condition that they would have nothing to do with anything new brought forward.

As to sulphur dioxide in the treatment of bronchial strongyles, for my own part I would not recommend it. I think that the good results obtained by Mr. Howard was attributable more to a generous diet than the inhalation of sulphur dioxide.

I thank you for the hearing you have given me.

Prof. Craig showed some interesting specimens illustrating his paper.

Mr. Norris proposed a vote of thanks to Professor Craig for his interesting lecture which he said, showed a great amount of research for providing such a paper for discussion. He deserved their very best thanks. (Hear, hear).

Mr. Wilkinson seconded the resolution, which was passed unanimously.

Prof. Craig having acknowledged the vote of thanks the meeting concluded.

## Government Scheme for Stockbreeding.

A report has been published by the Board of Agriculture on the administration of the grant for the encouragement and improvement of the live stock breeding industry for the year, April 1, 1914—March 31, 1915. It contains the first authentic account of the progress of the scheme, financed by the Development Commission for providing subsidized bulls, boars, and stallions in England and Wales for the use of small farmers at nominal fees.

Mr. E. J. Cheney, describing the work done since the scheme was put on a working basis in the spring of 1914, states that the record of progress is extremely creditable. The total amount which the Board were authorised to spend during the year was £37,000, and it was allocated in the following grants :—

| | |
|---|---|
| For the provision of bulls | £13,700 |
| For the provision of boars | 1,200 |
| To heavy horse societies | 9,100 |
| To milk-recording societies | 4,600 |
| To agricultural institutions for the employment of live stock officers | 8,400 |

The scheme, Mr. Cheney states, may be considered to have been well received. Since its inception 497 bulls and 115 boars have been allocated for service, grants have been made in respect of 72 stallions, and 16 milk-recording societies have been formed and started operations. The service fee of the bulls varied from 5s. to 2s. 6d. It is explained that these pure-bred bulls, costing on an average over £36, in many cases took the place of mongrel animals costing anything from £10 to £20. The progress of the movement for encouraging the keeping of milk records is especially gratifying.

## Cystic degeneration of the Ovaries in a Cow.

A case was recently investigated by the biologists of the Maine Agricultural Experiment Station. A pure-bred registered Ayrshire cow, belonging to the University of Maine, produced three calves, on dates as follows :—September 17, 1909 ; September 10, 1910 ; and February 24, 1912. When three years and 327 days old she was started in an official milk test of one year, which she completed with a record of 11,463 lb. of milk, carrying 417.71 lb. of butterfat. During her first lactation she was 316 days in milk, and gave 7840.6 lb. of milk, containing 293.61 lb. of fat. Her second lactation was the one already given. Her third began February 26, 1912, and ended March 24, 1913. She gave 7016.8 lb. of milk, containing 253.92 lb. of fat. One reason for the low record in this lactation is that she was sick for some time during the period.

After March 24, 1913, the cow never gave any milk. The udder rapidly shrank to a very small size, and the animal began to show the external characteristics of a bull. This change was very slight at first, but soon became much more marked. After a lapse of eight months the general external appearance and the behaviour of the cow were like those of a bull to a remarkable degree. The neck had become thickened in its posterior parts, and had developed a well-marked crest, as is characteristic of a bull. If the cow had been so screened that only her fore-quarters and neck were visible, any observer would have unquestionably pronounced her a male. In the hind-quarters the change, while less striking than in the anterior parts, was still clearly evident. The udder shrank away to a very small size. The hips and rump took on the smooth, rounded, filled-out appearance, which is characteristic of the bull but not of the cow.

The cow was slaughtered on February 18, 1914. Autopsy showed as the only gross abnormality a simple cystic condition of the ovaries. Under the microscope these ovaries differed from the normal in but one essential respect—namely, that they had no corpora lutea. This body pours into the blood a substance, which is known to have the function (1) of preventing the ovary from discharging any more ova, and (2) of preventing the animal coming in heat during the course of pregnancy.

The results of this study suggest as worthy a trial the injection of corpus luteum substance as a therapeutic measure in cases of cyst degeneration. The use of this material for somewhat analagous conditions in human medicine has met with marked success in some cases.—*Maritime Farmer.*

### Sale of Army Mares for Breeding.

Forty-two of these mares, portion of a recent consignment of 83, will be sold by order of the Board of Agriculture, as follows :—

Nine on 31st August, at Inverness, by Messrs. Macdonald, Fraser & Co. ; 9 on 2nd September, at Cheltenham, by Messrs. Warner, Sheppard & Wade ; 12 on 2nd September, at York, by Messrs. T. Walker & Sons ; 12 on 3rd September, at Lichfield, by Messrs. Winterton & Sons. It is hoped to arrange for further sales in various parts of the country during the next few months.

## ARMY VETERINARY SERVICE

Extract from *London Gazette*,

War Office, Whitehall, August 19.

Regular Forces. Army Veterinary Corps.

To be temporary Lieutenants :—

J. Simpson. Dated July 26.

F. Chalk. Dated July 29.

Temp. Lieut. J. B. Cowx relinquishes his commission on termination of his engagement. Dated Aug. 5.

Aug. 20.

Surname of temp. Lieut. S. H. Kesten is as now described, and not as in *Gazette* of Aug. 7.

Lieut. R. J. Vickers, from Canadian A.V.C., to be temp. Lieutenant. Dated Aug. 21.

Following Officers of E. Africa Vety. Corps are granted temporary rank in Army :—

As Lt.-Col.—R. J. Stordy ; as Majors—W. Kennedy, R. E. Montgomery ; as Captains—A. G. Doherty, H. H. B. Edwards, O. Dixon, W. Kearney, G. N. Hall, F. J. Sheedy, R. L. L. Hart. Dated Sept. 1.

As Captains—

A. W. Carter. Dated Sept. 30.

F. J. McCall. Dated Oct. 16.

T. C. Bradshaw, M. H. Reid, R. Edmondson. Dated Jan. 1.

Aug. 24.

Temp. Lieut. F. M. Barnes relinquishes his comm. Dated Aug. 11.

Aug. 25.

To be temp. Lieut :—J. Paul. Dated Aug. 11.

Aug. 21.

Territorial Force. Army Veterinary Corps.

Following Lieutenants resign commission :—

A. J. R. Bott, J. E. Taylor, H. P. Whipp. Dated Aug. 22

Aug. 23.

To be Lieut.:—C. F. Shawcross. Dated July 15.

Lieut. E. H. Fisher resigns his comm. Dated Aug. 24.

Aug. 25.

Major W. G. Dixon resigns his commission on account of ill-health. Dated Aug 26.

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The following casualty in the Expeditionary Force is reported:—

DIED—Pte. H. Curtis, 7955.

The following casualty in the Australian Imperial Force, with the Mediterranean Expeditionary Force is reported:—

DIED—Pte. W. J. Gilbert, 214, 2nd Vety Section.

The following casualty in the Mediterranean Expeditionary Force is reported:—

WOUNDED—Pte. J. N. Hardy, 5596.

## Personal.

CONNER.—At Southwick House, Regent Street, Spalding, on August 20th, to the wife of Jas. Conner, M.R.C.V.S.—a son.

JEFFRIES.—On the 21st Aug., at York House, London Road, Guildford, to the wife of H. Hayward Jeffries, M.R.C.V.S.—a son.

## OBITUARY.

LAMBERT.—On the 16th Aug., at the General Hospital, Alexandria, Lieut. Charles Henry Lambert, A.V.C., eldest son of J. H. Lambert, Redmount, Ballinasloe, aged 33.

## PROFESSOR EHRLICH.

A Reuter message from Amsterdam reports that according to a telegram from Frankfort to the *Nieuwe Rotterdamsche Courant*, Professor Ehrlich, the eminent physician and inventor of the celebrated remedy "606," died suddenly on Friday, 20th inst., in his laboratory at Homburg.

Born in 1854 at Strehlen, in Silesia, of Jewish parents, Paul Ehrlich was educated at the Gymnasium at Breslau, and afterwards at the Universities of Breslau and Strasburg, where he graduated in medicine.

Several of his written works had been translated into English, and he had received from England various honorary distinctions, which he resigned on the outbreak of the war. The Nobel prize was awarded to him in 1908.

## TETANUS IN SWINE: INTERDIGITAL ABSCESSES IN DOGS.

Dear Sir,—During the last few weeks your pages have contained notes on these two conditions, hence, perhaps, a further contribution of experience may be acceptable.

Once only I have seen the most distinct evidence of tetanus in swine. About two years ago, after castrating some pigs, I remarked to the owner that, as they were rubbing their hind parts on a heap of builder's sand, it would be best to shut them up away from it. Some few days afterwards I was called to see these pigs, and two of them undoubtedly had developed tetanus, and subsequently died. The symptoms were unmistakable.

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At a veterinary meeting recently the symptoms of interdigital abscess of dogs were described under the heading of "Eczema." Although eczema of the dog's foot does occur, yet surely it is altogether a different affection to that bugbear of canine practice.

Some little time ago I had an exceptional opportunity of observing the condition of abscesses between the toes. The owner of a Pekinese spaniel left her dog with me for six months, while she spent the winter abroad. The dog produced numerous abscesses from time to time, and various methods of treatment were tried:—curetting, applications of silver nitrate, cutting off the necrotic skin with scissors and painting the cavity with tincture of iodine. Also I had a special vaccine made, and gave the dog two courses of six injections each. None of these methods proved really successful; one pair of toes appeared to become united by cicatricial tissue, and abscesses did not recur at that place, but did so elsewhere.

My present attitude to the truth of the matter is that the condition is caused by traumatic infection from the under surface of the foot, and that it depends largely on conformation—a "splay footed" dog being more liable to the disease. Hence, of course grit, road-tar, stubble, and any prickly ground may be an exciting cause.

Up to now I know of no cure. Has any one tried the actual cautery right through the interdigital space—piercing and cauterising the upper and lower skin and the structures between?

One more instance:—My own Aberdeen terrier suffers in the same way, and when an abscess is developing my wife keeps the dog out of my sight, to save her from veterinary treatment. Perhaps this is wisdom!—Yours truly,

Hurst Green, Sussex. J. H. RIPLEY.

## THE QUESTION OF ARMY RANK.

Sir,—I have been hoping to see in the correspondence column of *The Veterinary Record* other letters in the same strain ast hose of "M.R.C.V.S." and "Strafe." As one who has been serving over-seas for the past eleven months, leaving a practice to do so, I heartily agree with "Strafe" that it is an injustice to the private practitioner to give civil servants a higher rank. In the very great majority of positions it is not a "virtual specialist in control of contagious diseases" that is wanted, but a man of all-round experience, which is not got under the Board of Agriculture. Referring to the letter of "M.R.C.V.S." it is to be hoped that pressure may be used to obtain the same concessions as those granted to to the R.A.M.C. Young medical officers coming almost right from College a few months ago are now captains, whilst vet. officers of perhaps ten or twenty years' experience are still lieutenants. Another point I should like to draw attention to is that Special Reserve officers are to lose heavily as compared to Temporary Commission officers whose first year of service has expired. The latter, I understand, have been induced to continue in the service by receiving five shillings a day more pay than before, and sixty days' pay as a bonus for every year or part of a year they serve. So far as I know no mention has been made of adding to the remuneration of Special Reserve officers. Here again I think there is an injustice to a great many. Because a man has been unfortunate enough to join the S.R. instead of taking a Temporary Commission he loses, roughly, £130 a year. In common fairness, I hold this is a matter that ought to receive consideration. I trust this letter may lead to others expressing their views, and possibly leading to concerted action as suggested by "Strafe."—Yours, etc. V.O.

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Sir,—I heartily endorse the opinions expressed by "Strafe" in your issue of the 31st ult.

I think the footnote stating that Vety. Inspectors of the Board of Agriculture are specialists in dealing with contagious disease is very misleading. The private practitioner in the majority of cases holds appointments in his district under the Contagious Diseases Orders, and it is through him that the inspectors of the Board of Agriculture are made aware of the outbreak of contagious disease, when they (inspectors) simply carry out the prescribed routine as regards such outbreak.

All officers of the R.A.M.C. with six months' mobilised service are promoted to the rank of captain, so that it is not too much to ask that the sister profession be treated alike, especially as the veterinary officer is doing three times the prescribed work, owing to the shortage of supply of veterinary surgeons for duty abroad.—Yours, etc.,

PRACTITIONER.

## DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

| Period. | | Anthrax | | Foot-and-Mouth Disease. | | Glanders.† | | Parasitic Mange. ‡ | | Sheep Scab. | Swine Fever. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Out-breaks (a) | Animals. | Out-breaks (a) | Animals. | Out-breaks (b) | Animals. | Out-breaks (b) | Animals. | (b) | Out-breaks (a) | Slaughtered. * |
| Gr. BRITAIN. Week ended August 21 | | 5 | 5 | | | | | 14 | 22 | | 66 | 314 |
| Corresponding week in | 1914 ... | 7 | 9 | | | 2 | 2 | 3 | 3 | 1 | 58 | 347 |
| | 1913 ... | 6 | 9 | | | 2 | 2 | 14 | 28 | 2 | 38 | 704 |
| | 1912 ... | 4 | 4 | 3 | 7 | 2 | 2 | 19 | 24 | | 34 | 421 |
| Total for 34 weeks, 1915 ... ... | | 412 | 472 | | | 34 | 63 | ‡569 | ‡1241 | 159 | 2937 | 13167 |
| Corresponding period in | 1914 ... | 512 | 555 | 11 | 74 | 72 | 218 | 1519 | 2631 | 152 | 2769 | 28759 |
| | 1913 ... | 373 | 411 | | | 112 | 288 | 1894 | 3826 | 129 | 1672 | 22607 |
| | 1912 ... | 554 | 630 | 70 | 442 | 120 | 228 | 2336 | 5074 | 170 | 2188 | 28379 |

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :

Board of Agriculture and Fisheries, August 24, 1915 ‡ Figures for twenty-one weeks only.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IRELAND. Week ended August 21 | | ... | ... | ... | ... | ... | ... | Outbreaks 3 | 7 | 3 | 34 |
| Corresponding Week in | 1914 ... | ... | ... | ... | ... | ... | ... | 1 | 5 | 3 | 23 |
| | 1913 ... | ... | ... | ... | ... | ... | ... | ... | 8 | 4 | 47 |
| | 1912 ... | ... | ... | ... | 3 | ... | ... | 1 | ... | 2 | 13 |
| Total for 34 weeks, 1915 ... | | 1 | 1 | ... | ... | 1 | 3 | 52 | 282 | 173 | 983 |
| Corresponding period in | 1914 ... | 1 | 1 | 76 | 957 | ... | ... | 59 | 385 | 153 | 767 |
| | 1913 ... | ... | ... | ... | ... | ... | ... | 96 | 366 | 110 | 660 |
| | 1912 ... | 3 | 3 | 21 | 216 | ... | ... | 52 | 261 | 172 | 1454 |

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, August 23, 1915

NOTE.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection.

## Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.
*Pres*: Mr. H. Barrow, M.R.C.V.S., Ireby, Carlisle
*Hon. Sec*: Mr. R. Craig Robinson, M.R.C.V.S., Carlisle
*Meetings*, Second Friday of Feb., June, and October

GLASGOW V.M.S.
*Pres*. Principal McCall.
*Hon. Sec*. Mr. J. D. Fulton, 83 Buccleuch Street, Glasgow

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*Hon. Sec*: Mr. B. Gorton, M.R.C.V.S. *Assist*. Mr. P. R. Turner

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## COLONIAL SOCIETIES (*continued next page*)

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*V. Pres*: Maj. A. P. Gribben, F.V.O., M.R.C.V.S.
*Hon. Sec. & Treas*: Mr. Max. Henry, M.R.C.V.S., B.V.SC. (SYD). 56 Bridge Street, Sydney

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ASSOCIATION MÉDÉCALE VÉTÉRINAIRE FRANÇAISE "LAVAL
*Sec*: Mr. J. P. A. Houde, Montreal

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*Hon. Sec*. Mr. Gustave Boyer, Rigaud, P.Q.

VETERINARY ASSOCIATION OF ALBERTA
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71 Smithdown Lane, Liverpool

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*Meetings*, Third Friday, Feb., May, Aug. and Nov.

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*Hon. Sec*: Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

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*Pres*: Mr. Hugh Williams, M.R.C.V.S., Ty Croes
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122 St. George's Avenue, Tufnell Park, N.
*Meetings*, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m

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New Buckenham
*Meetings*, Second Tuesday, Feb., July and Sept.

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*Meetings*, Second Thursday Feb., June, and October

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*Pres*: Mr. J. C. Coleman, M.R.C.V.S., Swindon
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*Meetings*, Third Thursday, March, July and November

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Public Health Dept., City Chambers, Edinburgh

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19 Bank Street, Hillhead, Glasgow
*Hon. Treas*: Mr. Geo. W. Weir, M.R.C.V.S.,
88 Crookston Street, Glasgow
*Meetings*, Second Wednesday, May, Oct. and January.

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